

CLAIMS

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1. A fluid cooled T-yoke for a loudspeaker, said T-yoke comprising:
 - a. a body having a base and a pole piece with a sealed cavity formed within said pole piece;
 - b. a fluid inlet formed in said body and communicating between said cavity and an area outside said body; and
 - c. a fluid outlet formed in said body and communicating between said cavity and an area outside said body.
2. The fluid cooled T-yoke according to claim 1, wherein said base has an aperture formed therein which communicates with said cavity and a base plug sealingly engages said aperture.
3. The fluid cooled T-yoke according to claim 2, wherein said fluid inlet and fluid outlet are formed through said base plug.
4. The fluid cooled T-yoke according to claim 3, wherein said cavity has an upper portion and one of said fluid inlet or outlet includes an extension tube extending into said upper portion of said cavity to insure fluid circulates through said upper portion.
5. The fluid cooled T-yoke according to claim 1, wherein a central wall divides said cavity into two cells and a top passage within said cavity connects said two cells.
6. The fluid cooled T-yoke according to claim 5, wherein said fluid inlet connects with one of said two cells and said fluid outlet connects with the other of said two cells.
7. The fluid cooled T-yoke according to claim 5, wherein said pole piece has sidewalls and said top passage is formed through said sidewalls thereby creating apertures and said apertures have plugs positioned therein.

8. A fluid cooled loudspeaker having a T-yoke with a pole piece, a magnet surrounding said pole piece, a voice coil positioned between said pole piece and said magnet, and a cone connected to said voice coil, said T-yoke comprising:

- a. a body having a base and a pole piece with a sealed cavity formed within said pole piece;
- b. a fluid inlet formed in said body and communicating between said cavity and an area outside said body; and
- c. a fluid outlet formed in said body and communicating between said cavity and an area outside said body.

9. The fluid cooled loudspeaker according to claim 8, wherein said base has an aperture formed therein which communicates with said cavity and a base plug sealingly engages said aperture.

10. The fluid cooled loudspeaker according to claim 9, wherein said fluid inlet and fluid outlet are formed through said base plug.

11. The fluid cooled loudspeaker according to claim 10, wherein said cavity has an upper portion and one of said fluid inlet or fluid outlet includes an extension tube extending into said upper portion of said cavity to insure fluid circulates through said upper portion.

12. The fluid cooled loudspeaker according to claim 8, wherein:

- a. said cone is positioned in a speaker basket with a field plate positioned between said magnet and said speaker basket;
- b. a damper is connected at an outer perimeter to said basket and at an inner perimeter to said voice coil; and
- c. at least one electrical lead passing into said basket and connecting to said voice

coil.

13. The fluid cooled speaker according to claim 8, wherein said fluid inlet and said fluid outlet communicate with a coolant fluid reservoir.
14. The fluid cooled speaker according to claim 13, wherein a pump circulates coolant fluid between said T-yoke and said fluid reservoir.
15. A fluid cooled loudspeaker system comprising:
 - a. a T-yoke with a pole piece, a magnet surrounding said pole piece, a voice coil positioned between said pole piece and said magnet, and a cone connected to said voice coil;
 - b. said T-yoke having: i) a body having a base and a pole piece with a sealed cavity formed within said pole piece, ii) a fluid inlet formed in said body and communicating between said cavity and an area outside said body, and iii) a fluid outlet formed in said body and communicating between said cavity and an area outside said body; and
 - c. a coolant fluid reservoir communicating with said fluid inlet and said fluid outlet.
16. The fluid cooled speaker system according to claim 15, wherein a pump circulates coolant fluid between said T-yoke and said fluid reservoir.
17. The fluid cooled speaker according to claim 8, wherein said inlet and outlet have hose connectors extending therefrom.
18. The fluid cooled speaker system according to claim 15, wherein said system further includes a heat exchanger.
19. The fluid cooled speaker system according to claim 15, wherein said reservoir performs the function of a heat exchanger.
20. The fluid cooled speaker system according to claim 15, including a coolant fluid taken from the group comprising water, glycol, water-glycol mixture, or oil.

21. The fluid cooled loudspeaker according to claim 8, wherein said pole piece and said base include a threaded aperture such that a threaded sleeve cup insert engages said aperture in order to form said sealed cavity within said body.

22. The fluid cooled loudspeaker according to claim 21, wherein a fluid line fitting plug engages a bottom section of said sleeve cup insert and said fluid line fitting plug has a dividing wall extending upwards therefrom.